

July 31st, 2015

RE: **REQUEST FOR QUOTES**  
**Cumberland, Phase 3 Landscaping**

The West Lafayette Engineering Department is requesting quotes for landscaping for the Phase 3 portion of Cumberland Avenue.

The enclosed Quote Sheet needs to be completed and submitted to the Office of the Clerk-Treasurer, 711 West Navajo Street, West Lafayette, Indiana 47906 in a sealed envelope by **8:30 AM, local time, August 18, 2015**. The envelope should be marked on the outside with the following notation: **Quotes for Cumberland, Phase 3 Landscaping**. Quotes will be transported to the Board of Works meeting in the Morton Center Multi-Purpose Room, 222 N. Chauncey Ave., West Lafayette, IN 47906 and opened immediately.

The Engineering Department plans to issue a purchase order for the lowest responsive, responsible quote.

West Lafayette Engineering Department is exempt from Indiana sales tax.

The following items have been included within this quote package:

- |                      |                           |
|----------------------|---------------------------|
| 1) Cover Letter      | 4) Insurance Requirements |
| 2) Quote Sheet       | 5) E-Verify Requirements  |
| 3) Request for Quote | 6) Exhibit A - C          |

Please contact Ed Garrison at (765) 418-7554 for any additional information or description.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ed Garrison", with a stylized flourish at the end.

Ed Garrison  
City Engineer Assistant

Purchase of Material and Services for:  
Cumberland, Phase 3 Landscaping

Quote Sheet

Quotes will be taken under consideration for the issuance of a purchase order to the most responsive and responsible firm which provides a quote most advantageous to the City of West Lafayette.

The Unit Price amounts should include the cost necessary to complete all work described by these documents. Unit prices shall apply to addition or deductions, by change order, to the contract as required/requested by the owner.

The right is reserved to reject any and all quotes for any reason. Substitutions for any material will only be allowed with prior approval.

THE TOTAL COST TO PROVIDE ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK; WORK MAY BEGIN UPON APPROVAL OF THE PROPOSED WORK SCHEDULE BY THE WEST LAFAYETTE ENGINEERING DEPARTMENT, FOLLOWING THE ISSUANCE OF A PURCHASE ORDER.

**INTERMEDIATE COMPLETION DATE IS NOVEMBER 20, 2015  
ALL WORK IS TO BE COMPLETED BY MAY 6, 2016.**

**TOTAL BASE QUOTE: \$ \_\_\_\_\_**

**Contractor's Name:** \_\_\_\_\_

**Authorized Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Phone Number:** \_\_\_\_\_

## Request for Quote

This request of quote is the official notice of needed services by the City of West Lafayette (the "City").

The City is requesting quotes for providing landscaping including trees, shrubs, and mulch. The Contractor shall be responsible for all incidental work including, but not limited to, MOT, grade repair, and site cleanup. These incidental costs should be included in the cost of other contract items.

This contract is subject to the following restrictions. Work may begin starting September 1<sup>st</sup>, 2015. There are two completion dates. The intermediate completion date is set for November 20, 2015 and will consist of at minimum, but not limited to, all geotextile, mulch, and shrub installation. The remainder of the contract work must be completed by the contract completion date of May 6, 2016. There shall be no restriction to through traffic along Cumberland Road or any intersecting road within the construction limits. Any violation to the above mentioned restrictions will be subject to LD's in the amount of \$100 per day. There will be a 10% retainage held from each pay application. This money will be released at final acceptance.

The Contractor shall be responsible for the determination and notification of all affected utilities and for the coordination of all work with the utilities. Any required permits will be provided by the Owner. The Contractor shall be responsible for the coordination of all work with West Lafayette Engineering Department.

Each contractor shall complete this form and submit it with his bid. The Total Base Quote amount should include the cost necessary to complete all work described by these documents. Unit prices shall apply to addition or deductions, by change order, to the contract as required/requested by the Owner. Exhibit A has been created to show planned locations of tree plantings and shrub location and patterns as well as provide a schedule of plantings. The final shrub and tree layout shall be field verified and approved by the City before planting. Exhibit B has been created for estimated quantities of items to be bid for in this contract. A brief description of each item is as follows:

- Mulch, Hardwood Shredded Bark – This item is a decorative mulch that is natural hard wood, free of dye. It will be paid for as a standalone item in the mulch beds set up in Exhibit A. The mulching for tree plantings are included in the cost of the trees themselves.
- Geotextiles – This item is to be excluded from the quote.
- Shrub and Tree Items – These items shall be in accordance with INDOT Specification 622 included as Exhibit C. Planting dates shall comply with the completion dates set previously in this document.

- Water – This is an undistributed item that will be used if needed beyond the requirements of the INDOT Specification 622.
- Spade Edge – This item is set up to create a crisp, clean edge between the sodding and the mulching bed area.

All work must conform to the attached Specifications and the City of West Lafayette Standards and Typical Construction Guidelines and Details (approved by the Board of Public Works and Safety on July 1, 2013).

The Contractor shall carry all necessary insurance and bonding coverage required. The Contractor shall also provide certificate of insurance to the City per the attached Insurance Requirements. All payments will

To be considered, quotes need to be submitted on the enclosed Quote Sheet to Office of the Clerk-Treasurer, City of West Lafayette Police Station, 711 W. Navajo St., West Lafayette, IN 47906 **before 8:30 AM, local time, on August 18th, 2015**. Quotes should be submitted in a sealed envelope identified by "**Cumberland, Phase 3 Landscaping**" on the outside of the envelope. The quotes will then be transported to the Board of Works Meeting and opened immediately in the presence of witnesses at the Morton Center Multi-Purpose Room, 222 N. Chauncey Ave., West Lafayette, IN.

Any questions concerning this Request for Quote should be directed to: Ed Garrison, City Engineer Assistant, West Lafayette Engineering Department, (765) 418-7554, [egarrison@wl.in.gov](mailto:egarrison@wl.in.gov).



## City of West Lafayette Insurance Requirements

The Contractor shall furnish to the City an acceptable performance and payment bond in the amount of one hundred percent (100%) of the contract price including subsequent modifications of work and contract price. Said bond shall secure the Contractor's performance, and payment of labor, materials, subcontractors, supplies and any furnishing service. Bid bond shall be written by a surety authorized to do business in the State of Indiana and who maintains at least one (1) established place of business, in the State and in a location of which the continuance is not dependent upon decision of individual personnel of the Surety within the State.

The City of West Lafayette's risk management strategy requires the contractor provide us with evidence of insurance that meets the minimum requirements listed below for this project. This coverage must be placed with an insurance company with an A.M. Best rating of A-:VII or better. Please provide a Waiver of Subrogation in favor of the City of West Lafayette, Indiana as it pertains to Commercial General Liability, Workers Compensation, and Automobile Liability.

### Insurance Requirements:

#### *(a) Commercial General Liability (Occurrence Form)*

Each Occurrence	\$1,000,000
Products/Completed Operations Aggregate	\$2,000,000
General Aggregate	\$2,000,000
(other than Prod/Comp Ops Liability)	
Personal & Advertising Injury Liability	\$1,000,000

Coverage shall be subject to a per project or vendor general aggregate provision that names all jobs performed by subcontractor if applicable. The City of West Lafayette, Indiana must be named as an Additional Insured per ISO forms CG2010 and CG2037 or their equivalent. The insurance will be considered primary and noncontributory before any other applicable coverage. Include Waiver of Subrogation in favor of the City of West Lafayette, Indiana.

#### *(b) Automobile Liability*

\$1,000,000 each accident

If subcontractor at any time transports hazardous materials, subcontractor shall carry appropriate auto pollution coverage. Hired and Non-Owned auto liability coverage is to be included. The insurance will be considered primary and noncontributory before any other applicable coverage. Include Waiver of Subrogation in favor of the City of West Lafayette, Indiana.

#### *(c) Workers Compensation and Employer's Liability*

Worker's Compensation	State Statutory Limits
Employer's Liability	
Bodily Injury by Accident	\$1,000,000 ea. accident

Bodily Injury by Disease	\$1,000,000 policy limit
Bodily Injury by Disease	\$1,000,000 ea. employee

Include Waiver of Subrogation in favor of the City of West Lafayette, Indiana.

(d) *Umbrella Liability*

Each Occurrence and Aggregate	\$1,000,000
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(e) *Professional Liability* (Applicable for Professional Services only rendered to the City) All subcontractors performing design, engineering, surveying, testing, or other professional services shall carry professional liability (errors and omissions) insurance. This policy shall provide at least \$1,000,000 for each occurrence and \$2,000,000 aggregate.

The Contractor shall secure, and maintain throughout the life of this contract, such insurance as will protect himself, the City and the Engineer from claims for bodily injury, death or property damage, arising from the Contractor's operations under the contract documents. Policies shall include the standard rider for coverage under Paragraph 8.03 of Article 8 of these General Conditions. Each policy shall contain a clause providing that such policy shall not be canceled by the insurer until after 30 days written notice, to the City, of intent to cancel. The Contractor shall not commence construction, or any operation pertaining thereto, until he has obtained all insurance required by this paragraph and shall have filed with the City either the insurer's certificate of such insurance or certified copies of the policies.

**Indemnity:** The Contractor shall indemnify and save harmless the City and agents and employees of the City, and the Engineer and agents and employees of the Engineer, from and against as allowed by law every loss and expense incurred by the City and agents and employees of the City and the Engineer and agents and employees of the Engineer, these and any of them, on account of claim, demand, payment, suit, action, judgment or recovery occurring by reason of, or out of, the work. Said indemnity shall be in the full amount of recovery had against the City and agents or employees of the City and the Engineer and agents and employees of the Engineer, these and any of them, plus such expense as may be incurred in determining and defending against such action, and plus legal fees of Defense Counsel.

**Patents and Royalties:** If the Contractor uses any design, device, material, method or process covered by patent or copyright he shall provide for such use by legal agreement with the holder of the patent or copyright and shall pay all fees and charges pertaining thereto.

# City of West Lafayette Provisions Required in all Contracts

## **1. Prevailing party – attorney fees**

**Notwithstanding any term or condition in this Contract to the contrary, in the event litigation is commenced to enforce any term or condition of this Contract, the prevailing party shall be entitled to costs and expenses of litigation including a reasonable attorney fee.**

## **2. Engaging in activities w/Iran**

**By signing this Contract, Contractor certifies that it is not engaged in investment activities in the country of Iran as set forth in I.C. 5-22-16.5.**

## **3. E-Verify**

Contractor shall comply with E-Verify Program as follows:

a. Pursuant to IC 22-5-1.7, Contractor shall enroll in and verify the work eligibility status of all newly hired employees of Contractor through the E-Verify Program (“Program”). Contractor is not required to verify the work eligibility status of all newly hired employees through the Program if the Program no longer exists.

b. Contractor and its subcontractors shall not knowingly employ or contract with an unauthorized alien or retain an employee or contract with a person that Contractor or its subcontractors subsequently learns is an unauthorized alien. If Contractor violates this Section 7(b), the City of West Lafayette require Contractor to remedy the violation not later than thirty (30) days after the City of West Lafayette notifies Contractor. If Contractor fails to remedy the violation within the thirty (30) day period, the City of West Lafayette shall terminate the contract for breach of contract. If the City of West Lafayette terminates the contract, Contractor shall, in addition to any other contractual remedies, be liable to the City of West Lafayette for actual damages. There is a rebuttable presumption that Contractor did not knowingly employ an unauthorized alien if Contractor verified the work eligibility status of the employee through the Program.

c. If Contractor employs or contracts with an unauthorized alien but the City of West Lafayette determines that terminating the contract would be detrimental to the public interest or public property, the City of West Lafayette may allow the contract to remain in effect until the City of West Lafayette procures a new contractor.

d. Contractor shall, prior to performing any work, require each subcontractor to certify to Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and has enrolled in the Program. Contractor shall maintain on file a certification from each subcontractor throughout the duration of the Project. If Contractor determines that a subcontractor is in violation of this Section 7(d), Contractor may terminate its contract with the subcontractor for such violation. Such termination may not be considered a breach of contract by Contractor or the subcontractor.

e. By its signature below, Contractor swears or affirms that it i) has enrolled and is participating in the E-Verify program, ii) has provided documentation to the City of West Lafayette that it has enrolled and is participating in the E-Verify program, and iii) does not knowingly employ an unauthorized alien.

#### 4. Non-Discrimination

Contractor agrees:

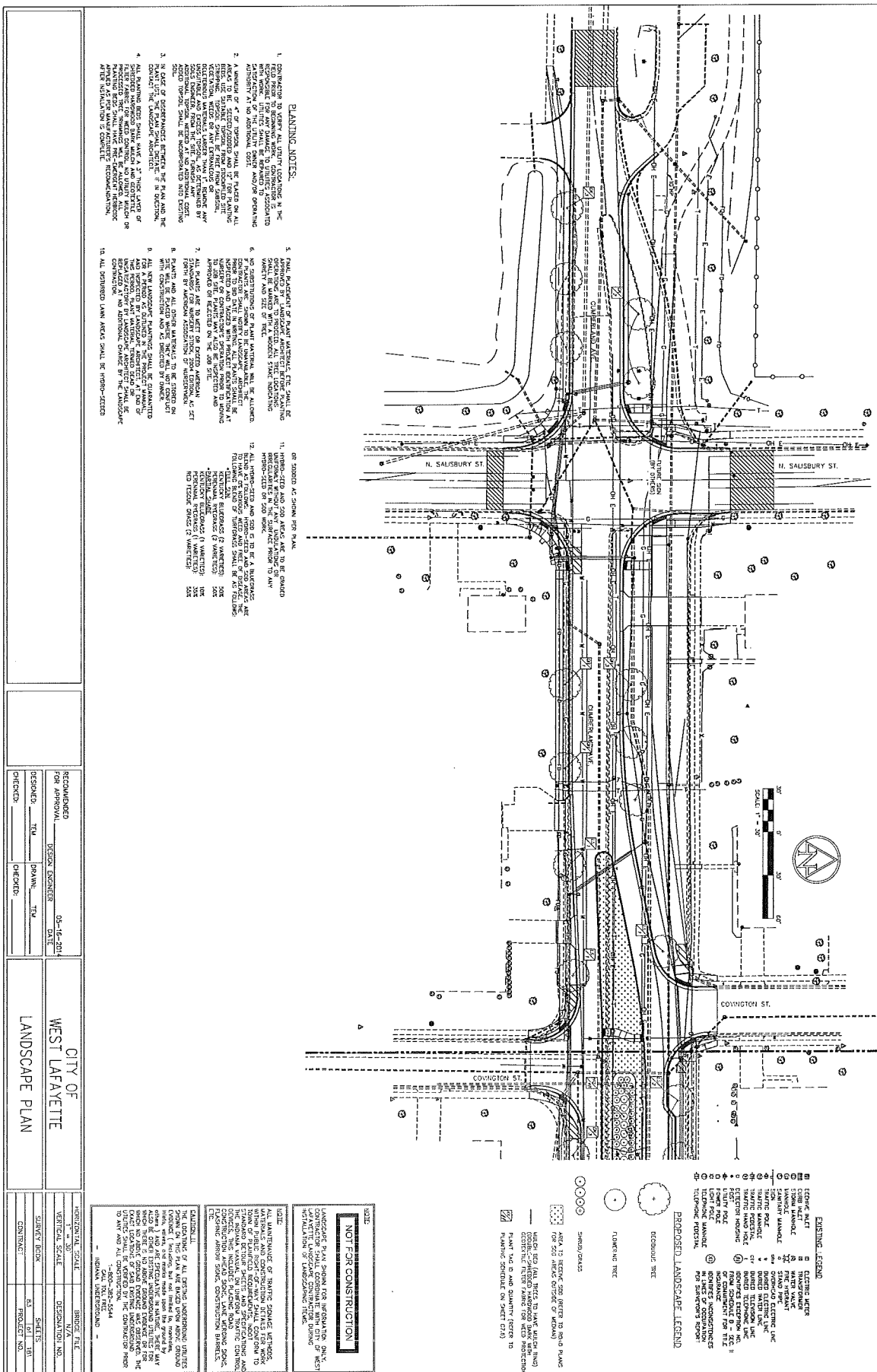
(a) That in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, or subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, religion, color, sex, national origin or ancestry, discriminate against any citizen of the State of Indiana who is qualified and available to perform the work to which the employment relates;

(b) That no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, religion, color, sex, national origin or ancestry;

(c) That the City of West Lafayette may deduct from the amount payable to the contractor a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract;

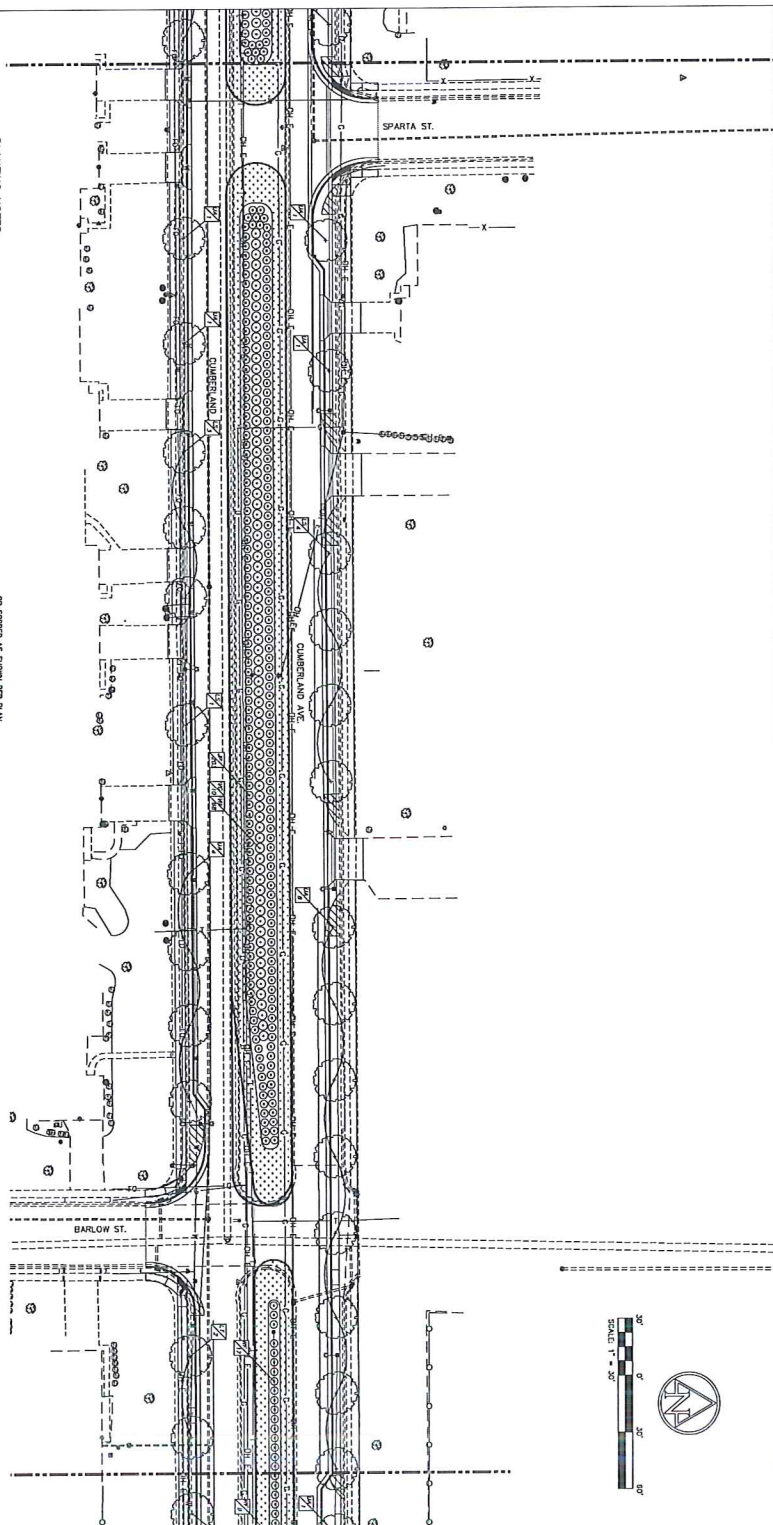
(d) If there is a second or any subsequent violation of the terms or conditions of this section, then this contract may be cancelled or terminated by City of West Lafayette and all money due or to become due hereunder will be forfeited.

PRINT DATE: 6/25/15  
PLOT SCHED: 1-25849  
PRINT DATE: 12/31/13 1:29 PM EDITED BY: JFASON DRAWING FILE: M:\PROJECTS\2015\W15502-CLIMBER AND LANDSCAPING\CAD\CURRENT\W15502-B5-COPY.DWG









1. PENALTY FOR GROSS VIOLATION OF SECTION 10. THE PENALTY FOR GROSS VIOLATION OF SECTION 10 SHALL BE A FINE OF \$100.00 TO \$500.00 AND/OR IMPRISONMENT FOR A TERM OF 30 DAYS TO 6 MONTHS.
2. A NUMBER OF 4" OR 6" SPOTLIGHT SHALL BE PLACED ON ALL EXTERIOR WALLS OF THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING.
3. A NUMBER OF 4" OR 6" SPOTLIGHT SHALL BE PLACED ON ALL EXTERIOR WALLS OF THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING.
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9. A NUMBER OF 4" OR 6" SPOTLIGHT SHALL BE PLACED ON ALL EXTERIOR WALLS OF THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING AND SPOTLIGHT SHALL BE USED TO ILLUMINATE THE BUILDING.
10. ALL OTHERS VIOLATING SHALL BE FINED \$100.00 TO \$500.00 AND/OR IMPRISONMENT FOR A TERM OF 30 DAYS TO 6 MONTHS.

- [illegible]

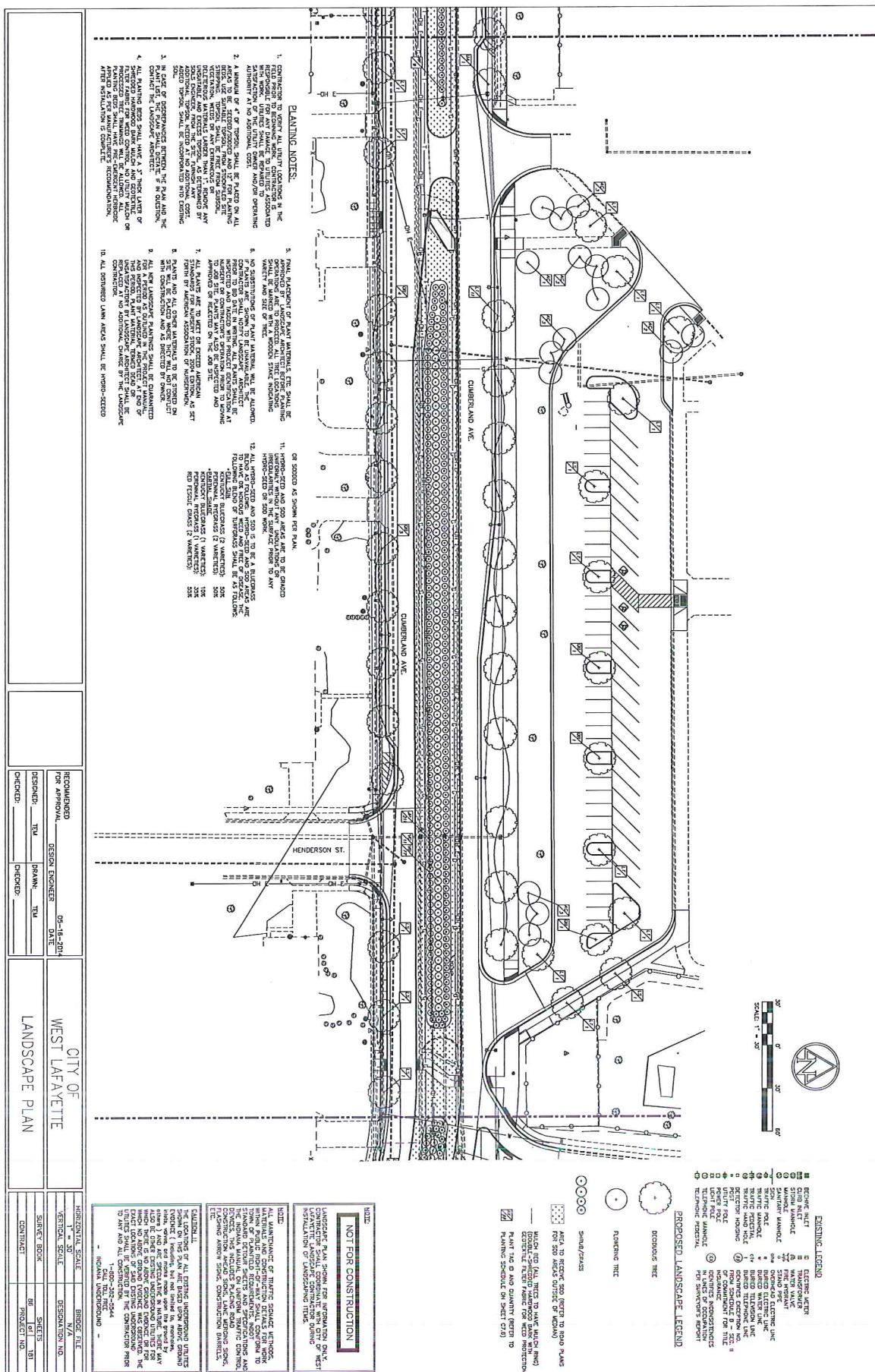
LANDSCAPE PLAN SHOWN FOR INFORMATION ONLY. CONSTRUCTION SHALL COMPLY WITH CITY OF KANSAS LANDSCAPE CONTRACTOR DURING INSTALLATION OF LANDSCAPING ITEMS.

ALL MAINTENANCE OF TRAFFIC SIGNAGE METHODS, MATERIALS AND CONSTRUCTION DETAILS FOR WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO TOWN OF PLAINFIELD REQUIREMENTS, INDOT STANDARD DETOUR SHEETS AND SPECIFICATIONS AND THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THIS INCLUDES PLACING ROAD CONSTRUCTION AHEAD SIGNS, LANE WARNING SIGNS, FLASHING ARROW SIGNS, CONSTRUCTION BARRIERS, ETC.

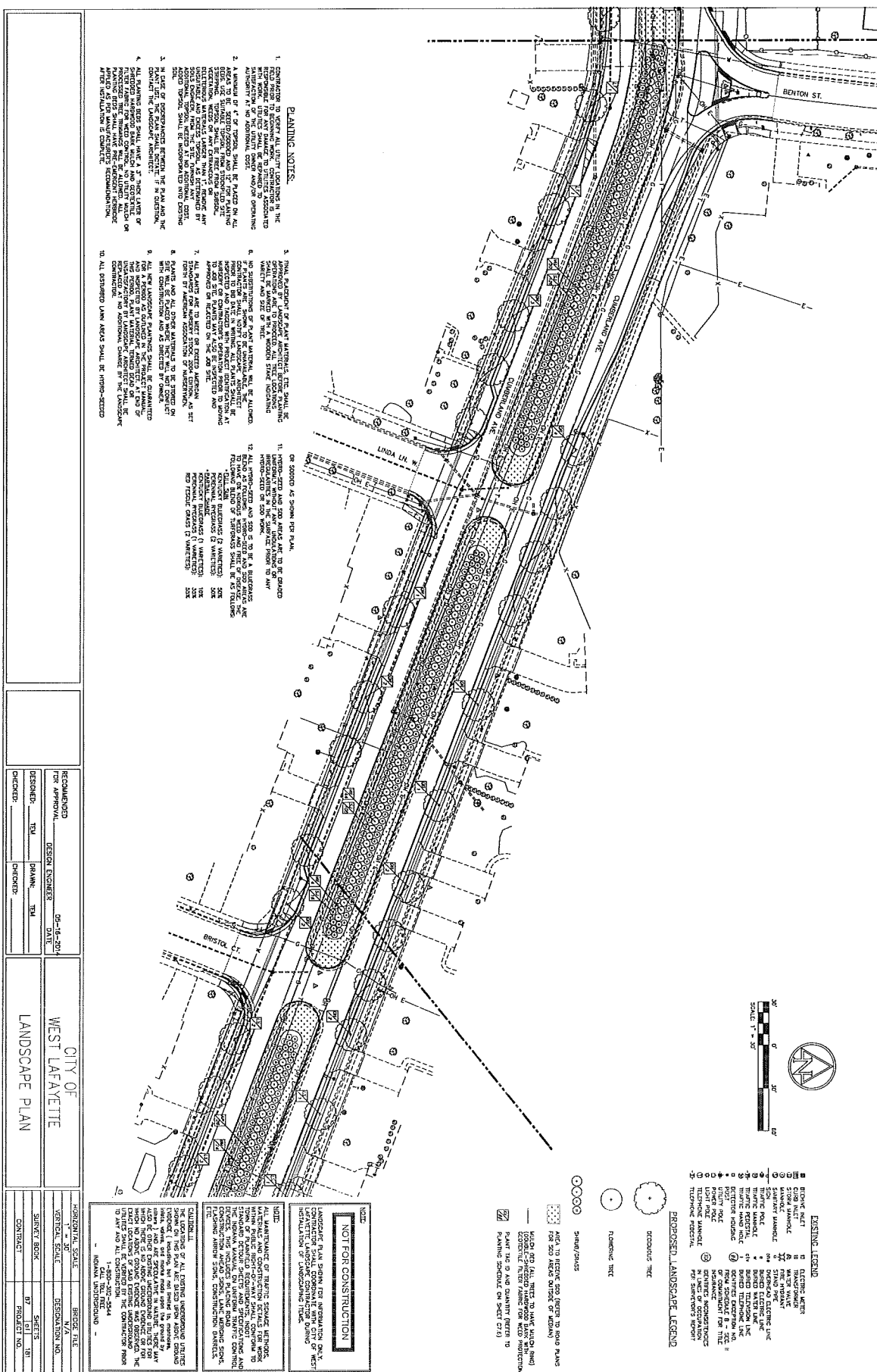
**CALUTION 11.** THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLAN ARE BASED UPON ABOVE CIRCUMSTANCES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. NO UTILITIES SHALL BE DAMAGED BY THE CONTRACTOR PROCEEDING TO ANY AND ALL CONSTRUCTION.

1-BDD-382-5544

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	05-14-2014
DESIGNED: TUL	DRAWN: TUL	CHECKED:	
CITY OF WEST LA VARETTE			
LANDSCAPE PLAN			
SUNNY BROOK		SHEETS	
CONTRACT		HS PROJECT NO.	
		DISSECTION NO.	
HORIZONTAL SCALE 1" = 30'		BROAD TIE	
VERTICAL SCALE		V/A	









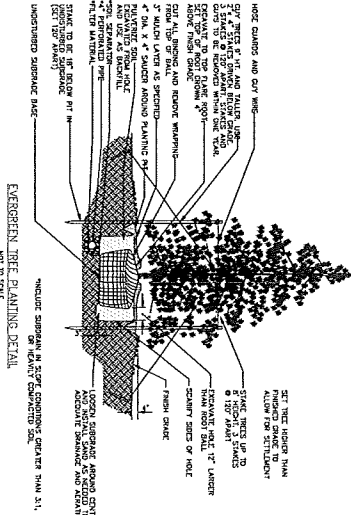


PLANTING SCHEDULE			
KEY	QTY.	RECOMMENDATION	REMARKS
1	1	1	1
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5	5	5	5
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KEY	QTY.	RECOMMENDATION	REMARKS
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PERENNIAL/GROUND COVER PLANTING DETAIL

NOT TO SCALE

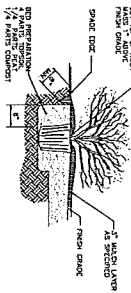


EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

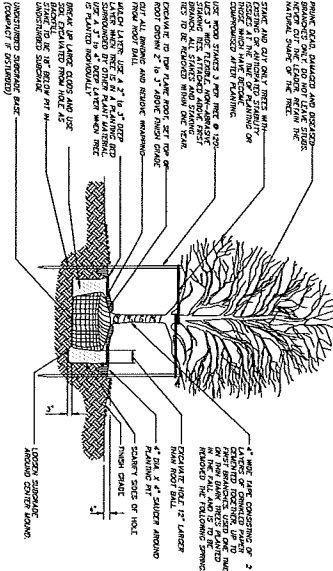
SHRUB PLANTING DETAIL

NOT TO SCALE



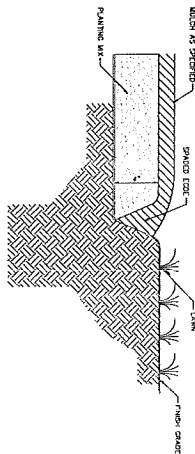
SHADE TREE PLANTING DETAIL

NOT TO SCALE



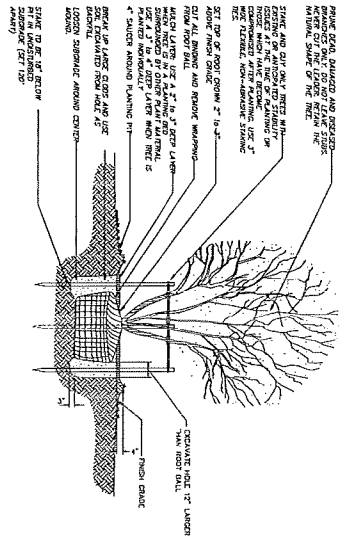
LANDSCAPE SPREAD TO DETAIL

NOT TO SCALE



MULTI-STEM TREE PLANTING DETAIL

NOT TO SCALE



NOT FOR CONSTRUCTION

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	03-14-2014
DRAWN	DATE	
CHECKED	CHECKED	
CITY OF WEST LAFAYETTE		
LANDSCAPE DETAILS		
HORIZONTAL SCALE	VERTICAL SCALE	BUILD FILE
N/A	N/A	N/A
SURVEY BOOK	DESIGNATION NO.	SHEETS
08	101	101
PROJECT NO.		



AMERICAN  
**STRUCTUREPOINT**  
INC.

**ITEMIZED PROPOSAL**  
Cumberland Avenue Phase III  
Landscaping  
Project No.: 201300985

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	2001	MULCH, HARDWOOD SHREDDED BARK	456.00	CYS		
<del>0002</del>	<del>2002</del>	<del>GEOTEXTILE 'MONROE FOR MULCH'</del>	<del>5,250.00</del>	<del>SYN</del>		
0003	2003	PLANT, FLOWERING TREE, SINGLE STEM, 2.0 IN. CAL., AMELANCHIER CANADENSIS	15.00	EACH		
0004	2004	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., CERCIS OCCIDENTALIS	6.00	EACH		
0005	2005	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., CLADRASTIS KENTUCKEA	19.00	EACH		
0006	2006	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., LIRIODENDRON TULIPIFERA	26.00	EACH		
0007	2007	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., QUERCUS RUBRA	11.00	EACH		
0008	2008	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., ULMUS 'MORTON' ACCOLADE	17.00	EACH		
0009	2009	PLANT, DECIDUOUS SHRUB, 3 GAL. CONT., AESCULUS PARVIFLORA	60.00	EACH		
0010	2010	PLANT, DECIDUOUS SHRUB, 18-24" HT. CONT., BUXUS MICROPHYLLA VAR. JAPONICA 'WINTERGREEN'	394.00	EACH		
0011	2011	PLANT, DECIDUOUS SHRUB, 3 GAL. CONT., ILEX VERTICILLATA 'BERRY NICE'	145.00	EACH		
0012	2012	PLANT, DECIDUOUS SHRUB, 3 GAL. CONT., ILEX VERTICILLATA 'SOUTHERN GENTLEMAN'	21.00	EACH		
0013	2013	PLANT, DECIDUOUS SHRUB, 18-24" HT. CONT., JUNIPERUS X PRITZERIANA 'PRITZERIANA AUREA'	414.00	EACH		
0014	2014	PLANT, DECIDUOUS SHRUB, 18-24" HT. CONT., ROSA 'FRAU DOGMAR HASTRUP'	26.00	EACH		
0015	2015	PLANT, DECIDUOUS SHRUB, 18-24" HT. CONT., SPIREA JAPONICA 'FROEBELI'	340.00	EACH		
0016	2016	PLANT, DECIDUOUS SHRUB, 3 GAL. CONT., VIBURNUM X BURKWOODII 'MOHAWK'	133.00	EACH		
0017	2017	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., LIQUIDAMBAR STRACIFLUA 'HARDELL'	25.00	EACH		
0018	2018	PLANT, DECIDUOUS TREE, SINGLE STEM, 2.0 IN. CAL., QUERCUS BICOLOR	34.00	EACH		
0019	2019	PLANT, DECIDUOUS SHRUB, 3 GAL. CONT., HYDRANGEA MACROPHYLLA 'SNOW QUEEN'	60.00	EACH		
0020	2020	WATER	45.00	KGAL		
0021	2021	SPADE EDGE	9,007.00	LFT		
TOTAL BASE BID =						

EXHIBIT B

include and will be full compensation for furnishing the required chemicals, or  
490 furnishing and processing the additional materials required.

## (c) Mulching

The percent of moisture shall be determined at the time the mulching material is weighed. Facilities shall be provided for weighing in accordance with 109.01(b). Arrangements shall be made in advance so that the percent of moisture will be determined at the time of weighing and that the weight of the material will be checked. Moisture content of the mulch will be determined on the basis of air dry weight as follows:

$$500 \quad \text{Moisture Content \%} = \frac{\text{Wet Weight of sample} - \text{Air Dry Weight of sample}}{\text{Air Dry Weight of Sample}} \times 100$$

The gross, or wet, weight of mulching material furnished and placed will be paid for if the moisture content does not exceed 10%. If the moisture content exceeds 10%, the weight to be paid for will be the gross, or wet, weight minus the weight of excess moisture computed as follows:

$$510 \quad \text{Weight to be paid for} = G \times \frac{110}{(100 + M)}$$

G = Gross, or wet, weight of mulching material

M = Moisture content, %, in the mulching material to the nearest 0.5%.

Mulching material which contains more than 50% moisture will be rejected. Wood cellulose fiber mulch containing more than 15% moisture will be rejected.

## SECTION 622 – PLANTING TREES, SHRUBS, AND VINES

### 622.01 Description

This work shall consist of furnishing, delivering, and planting trees, shrubs, and vines, and also seedlings for wildlife habitat. This work shall also consist of the performance of incidental planting procedures and plant establishment work to provide a complete operation in accordance with 105.03.

## MATERIALS

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### 622.02 Materials

Materials shall be in accordance with the following:

Backfill Material.....	914.01
Fertilizer .....	914.03
Mulch .....	914.05(b)



622.03

	Pipe.....	914.09(e)
	Plants .....	914.08
	Porous Material .....	914.09(d)
20	Tree Wound Dressing.....	914.09(c)
	Water .....	914.09(a)

Soil conditioners such as peat moss or calcine clay may be added with written permission.

Guy wire shall be minimum No. 14 gage galvanized wire.

## CONSTRUCTION REQUIREMENTS

### 30 622.03 Care and Handling of Plants

#### (a) Bare Rooted Plants

If the outside air temperature exceeds 35°F when the plants are delivered, the plants shall be planted immediately or placed in inside or outside storage. If they are stored outside, the roots shall first be puddled in a paste solution of backfill and water. The plants shall then be separated and their root systems heeled-in by completely covering with moist soil. If they are stored inside, the roots shall be puddled in a paste solution of backfill and water. Straw, peat moss, or corncobs shall be worked in and around the root system and kept moist. Plants which are delivered  
40 in boxes, wrapped bundles, or other forms of closed containers, including trucks, and which are stored inside may remain in the container for 48 h from time of delivery, provided the containers are opened immediately and the plants are watered if necessary.

If the outside temperature is 35°F or less when plants are delivered, the plants shall be placed in inside storage immediately. Inside storage procedures shall be in accordance with the above requirements. Plants may be transferred to outside storage when the outside temperature exceeds 35°F provided they are puddled again and then heeled-in.

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Temperature inside the storage building shall be maintained between 35°F and 55°F. Plants shall not remain in storage, either inside or outside, for more than seven days, unless otherwise specified because of unfavorable planting conditions.

Plants may be rejected on failure to comply with these specifications.

#### (b) Balled and Burlapped Plants and Container Grown Plants

Plants shall be planted or placed in storage before being exposed for 10 consecutive hours at temperatures less than 35°F. Storage of plants shall be in a  
60 moist storage building or they shall be placed outside in a compact group with balls or containers completely covered with corncobs and kept moist. Plants shall not remain in storage for more than 10 days, unless otherwise specified because of unfavorable planting conditions.

Plants may be rejected on failure to comply with these specifications.

#### **622.04 Collected Plants**

At least 24 h before starting to dig collected plants, notification shall be given of the time and place of digging so inspection of the work and of the plants can be made, if so desired.

Collected plants shall be dug carefully in a satisfactory manner. All operations of digging, transporting, and replanting collected plants shall be in accordance with all applicable laws and regulations of the State.

#### **622.05 Excavation for Plant Holes**

Stakes will be set to locate plant holes for each tree, shrub, or vine. The outline of each seeding bed will be staked and the planting on the required centers shall be as directed. Stakes for the staking operation shall be furnished. The location stakes shall be removed as directed. Excavation shall be such that the plant holes are cylindrical in shape with the sides approximately vertical. Material excavated from the holes may be used for backfill providing it is in accordance with 914.01. Otherwise, it shall be distributed uniformly within the construction area as directed. The excavated material shall not be stockpiled on turf or in ditches. Material unsuitable for the growth of vegetation, including rocks and boulders, shall be disposed of outside the right-of-way as directed and in accordance with 203.01 and 203.10. Plant holes shall be in accordance with the details and tables shown on the plans. If plants have not been planted within 10 days after excavation of the hole, the hole shall be refilled and re-excavated at the time of planting. No additional payment will be made for this operation.

If, after staking or excavation of the plant holes at the locations shown on the plans, it becomes apparent that the location is unsuitable for planting due to accumulation of ground water, possible flooding because of terrain conditions, or unsuitable soil conditions, plant holes shall be relocated as directed. Such relocation shall be done with no additional payment.

#### **622.06 Planting Season**

The planting season shall be from September 1 through the following May 25, with the exception that trees shall be planted from October 1 through the following April 15, provided that trees are dormant. Crown vetch plants and seedlings shall be planted only from April 15 through May 30, unless approved in writing. Bare rooted plants shall be planted only when the outside air temperature exceeds 35°F. Unless otherwise approved, deciduous plants, except those container grown, shall be dormant at the time they arrive at the work or storage site. Evergreens shall not have active terminal growth. At least 40% of the total number of balled and burlapped, and container grown plants, not including crown vetch plants, shall be planted from the beginning of the planting season through December 31. Bare root seedlings for



- wildlife habitat shall be planted from October 1 through the following April 30.  
 110 Container grown seedlings for wildlife habitat shall be planted at any time.

The initial planting and spring replacements, in accordance with 622.18, shall be completed satisfactorily within the planting season which expires prior to the completion date of the contract. These plants shall have an establishment period which shall be from the end of the specified planting period to the fall inspection. If the initial planting and spring replacements are not completed within the specified time, the completion date may be extended one year to provide an establishment period. If the completion date is extended, all requirements of 622.18 shall apply until final inspection and acceptance.

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### **622.07 Pruning**

- Before the plant is placed in the plant hole, any bruised or broken parts of roots shall be cut off smoothly as approved unless otherwise specified or directed. All plants shall be pruned either before or after planting. Such pruning generally shall consist of thinning out or cutting back secondary branching to reduce the foliage by 1/3 to 1/2 in accordance with accepted horticultural practices. Pruning operations shall maintain the general crown outline and characteristic branching pattern for each species. Pruning or cutting back of terminal leaders which are over 3/8 in. in diameter at the point of cut will not be allowed. Broken or dead branches, or any  
 130 other objectionable parts of the plant, shall be removed throughout the life of the contract. Pruning tools shall be kept sharp and shall be sterilized in denatured alcohol after each hour of use. All cut surfaces 3/8 in. or more in diameter shall be painted with a tree wound dressing.

- Bare rooted shrubs shall be cut back to 1/2 their minimum specified height as shown on the plans. Pruning shall be performed after the shrubs have been sealed with Department seals and prior to the leaf buds breaking dormancy. At the time of the spring and fall inspections, bare rooted shrubs will be accepted at their original specified height provided they are healthy, in good growing condition, and are no  
 140 less than 1/2 the minimum specified height.

### **622.08 Planting, Backfilling, and Watering**

- The plant shall be placed in the plant hole at the proper position for depth, alignment, final grade of the surrounding ground level, and vertical position of the trunk. The planting procedure shall be performed in such a manner that the top of the ball of the plant is as shown on the plans at the time of planting. The planting procedure shall be in accordance with the details as shown on the plans. Backfill material in accordance with 914.01 shall be placed around all plants except seedlings. The quantities of backfill material required per plant shall be as shown on  
 150 the plans.

In areas which are designated on the plans as beds for group planting, the soil shall be tilled to a minimum depth of 6 in. in such a manner that all sod and vegetation is destroyed. These areas shall be tilled at least two times with an interval

of 14 days between tilling operations. Planting may be done immediately after the second tilling. Additional tilling shall be performed if vegetation appears before mulch is applied. Sod and vegetation shall be removed in lieu of the tilling operation when the soil temperature or moisture conditions are such that the sod and vegetation would not be destroyed by tilling. At other times, sod and vegetation may be removed in lieu of tilling. If the excavation resulting from sod removal is greater than 1 in. deep, it shall be backfilled with topsoil to 1 in. above the original ground. After sod and vegetation removal and backfilling, the bed area shall be cultivated to a depth of 6 in. Large clods, rocks, and other debris encountered in the cultivation work and any excess soil shall be removed. The outline of beds for group plantings shall be no closer than 3 ft to the center of any of the outer plants in the area.

In addition to the water applied at the time of planting, unless excessive moisture prevails, the minimum supplemental waterings required shall be two between May 1 and June 15, and one every 14 days between June 15 and September 15. Sufficient water shall be applied to individual plants to saturate the backfill and the mulch area. Plants in beds shall receive water equivalent to the quantity used for individual plants. Liquid fertilizer, in accordance with 622.09, may be applied with the supplemental watering and the method of application shall be approved. Lance watering will not be allowed.

Container grown seedlings for wildlife habitat which have been planted from June 1 through August 31 shall be maintained after installation for 30 days. Maintenance shall include watering the seedlings at the time of planting and once every seven days.

#### **(a) Plants with Bare Roots**

With the plant in its proper position, the plant hole shall be backfilled with material in accordance with 914.01. The backfill material shall be worked firmly around the roots as the hole is gradually filled. The plant shall be raised gently and lowered slightly as the soil is added to help eliminate air pockets around the roots. Soil shall be added in layers of about 6 in. and each layer tamped to make it firm and to hold the plant perpendicular. Water shall be used to settle the soil and to eliminate air pockets around the roots, unless otherwise directed. The top 4 in. of soil necessary to fill the plant hole completely shall be a very fine mixture and shall be placed on top of the firmed backfill and allowed to remain loose and untamped.

#### **(b) Balled and Burlapped Plants**

Balled and burlapped plants shall be handled by the ball and placed in the holes in such a manner that the soil of the ball does not become loosened from the roots. The soil directly beneath the ball shall be firmed to minimize settling. Guy stakes shall be driven before backfilling operations begin. After the hole has been partially backfilled and the material firmed under and around the ball, the burlap shall be cut away and removed from the stem of the plant. Backfilling and firming shall then be completed in a manner to avoid loosening the soil from the root ball. Watering shall



- 200 be done in accordance with 622.08(a). Backfill material shall be in accordance with 914.01.

**(c) Seedlings for Wildlife Habitat**

- Seedlings shall be from 6 to 18 in. in height. Seedlings shall be planted as directed in the locations shown on the plans. Species shall be selected from the list as shown on the plans. Alternate species selection shall be subject to approval. Seedlings shall be planted no closer to each other than the distance shown on the plans. Seedlings shall not be planted in rows, but instead shall be planted in a natural appearing pattern. Failure to comply with this procedure will require the replanting of the seedlings as directed with no additional payment. All damaged seedlings shall be replaced with no additional payment if replanting is required.
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**622.09 Liquid Fertilizer Application**

All plants shall be fertilized with a water soluble 5-10-10 fertilizer, or an equivalent amount of plant nutrients, at the rate of 0.75 lb/100 gal. of water. Fertilizer shall be applied to each installed plant until the mulched area over the plant hole is saturated. Three applications shall be made: one on or about July 1; one about August 1; and one about September 1.

220 **622.10 Mulching**

Mulch, in accordance with 914.05(b), shall be placed as a top layer around each plant as soon as it has been installed. The mulch shall cover the entire area as described in 622.08 and shall be placed around individual plants in accordance with the plans.

**622.11 Guying and Staking**

- Guying and staking shall be in accordance with the details shown on the plans. Guy wire shall be placed through rubber hose material around each tree then twisted to secure the tree in a relatively stable position. Three wood stakes shall be spaced equally about each tree. The guy wire shall be secured to each stake at an approximately right angle. Support of multi-stem trees of 4 to 6 ft in height shall consist of inner limb guying and bracing stakes. The securement point and placement of guy wire shall be so as to avoid abrasion of tree limbs. The guys and stakes shall be maintained for the duration of the contract. Prior to final inspection, all materials used to support trees shall be removed and disposed of, except as otherwise directed for trees requiring additional bracing time. However, supports for fall replacement shall remain in place. If approved, stakes may be left flush with the ground.
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**622.12 Plant Protection**

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**(a) Borer Control Coatings**

Within five days after planting and prior to wrapping, all trees, except evergreens, shall be protected against borer attack with an insecticide mixture applied to the tree trunk with a paint brush or a suitable hand sprayer. The application shall cover the trunk from the root crown to the first major branches. The

mixture shall consist of enough powdered skim milk to form a smooth slurry when added to either dieldrin 18 at the rate of 2 qt to 50 gal. of water or thiodan 50 at the rate of 1 lb to 50 gal. of water.

250 **(b) Wrapping for Rodent Protection**

Within seven days after planting, all crabapple and shade trees with a 1/2 in. diameter or larger, except for multi-stem forms, shall be wrapped with a double layer of 18 by 14 mesh per in. aluminum mill finish screen wire mesh around the trunk of each tree as shown on the plans. The height of screen wire shall be from the existing grade to below the lowest branch. The screen wire shall be overlapped at the ends. The screen wire shall be secured to itself with hog rings or other approved methods, and to the rods by approved means.

260 Plastic coil type protective wrapping will be acceptable as an alternative to the screen wire and reinforcement rod method of tree protection or staked trees of less than 2 in. caliper. The wrapping shall be loosened twice each calendar year. The first adjustment shall be made between May 15 and June 15. The second adjustment shall be made between September 1 and September 30. The plastic tree protective wrapping shall extend to the height of the bottom limb.

270 The Contractor may submit other proposed methods of rodent protection to the Department's landscape architect for approval prior to installation. The design of the protection shall ensure an average air space diameter of 2 in. greater than the tree's callipered size at installation. The protection shall enable air movement through its surface to dry the tree trunk following periods of precipitation. The protection shall not damage the tree nor hinder its growth.

Multi-stem trees shall be wrapped with commercially available wrapping paper wrapped tightly around the trunks from the ground to the lowest branch with a minimum of 1/2 in. overlap. The wrapping paper shall be tied securely with stout cord at top and bottom and at two intermediate intervals.

**622.13 Retaining Walls and Tree Wells**

280 Retaining walls around the roots of trees or shrubs, and tree wells around the trunks of trees or shrubs shall be constructed at the locations and to the shape and dimensions shown on the plans or as otherwise designated. They shall be of mortar and masonry, or other type as specified. Mortar shall not be used in any portion of the tree well extending below the top of contiguous porous material used for tree root protection. The inside face of a tree well shall be no less than 2 ft from the outside edge of the trunk of the tree or shrub. No material shall be placed between the tree trunk and the wall of the tree well.

**622.14 Tree Root Protection**

290 Where tree root protection is specified, the entire area of the root spread shall be protected. The limits of this area shall be as designated, but in general this area corresponds to the area of the ground surface lying beneath the limb spread of the



tree. The area shall be cleaned of all vegetation and debris. Porous material, in accordance with 914.09(d), shall be placed uniformly over the area to a depth in proportion to the height of fill, varying proportionally from 3 in. for fills of 1 ft or less to 12 in. for fills of 4 ft or more, or to such other depth as may be designated. A layer of No. 23 sand or other approved material shall then be placed in sufficient quantity to choke the top layer of porous material and will be measured and paid for as porous material.

- 300 Where the earth fill is less than 12 in. and tree root protection is specified without the construction of a tree well, the thickness of the porous material at the tree trunk shall be increased to the height of the fill and extend outward from the tree trunk in collar form for a distance of 12 in., unless otherwise shown on the plans.

No fill shall be placed over the root spread of any tree or shrub that is to be protected in the above manner until the required depth of porous material has been placed.

#### **622.15 Pipe Underdrains**

- 310 Pipe underdrains, when shown on the plans or directed, shall be placed to drain tree wells or porous material for tree root protection. These shall be placed in accordance with applicable provisions of 718.

#### **622.16 Damage to Plants**

- During all operations of tree protection, care shall be used to prevent unnecessary cutting of roots and to prevent scarring or damage to selected trees or shrubs. Motorized equipment shall not be operated within the drip line of trees unless specified. Where trimming of branches or cutting of roots is necessary, all cuts shall be made cleanly with proper sharp tools in accordance with generally accepted horticultural practices. Scarred areas and cut surfaces 3/8 in. or more in diameter shall be covered completely with a tree wound dressing.
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#### **622.17 Grass and Weed Control**

- Weeding and mowing of grass in and around all group plantings, beds, and individual trees and shrubs shall be performed until final acceptance. The grass and weed control areas shall be the areas within 2 ft of the outer limits of all group plantings and shrub beds and within 2 ft of the outer limits of the mulch area of individual shrubs. For the care of individual trees, the area shall extend to a perimeter centered from the point itself to 2 ft beyond the stub stakes of the guy wires or 2 ft beyond the mulched area. In general, these areas shall be in accordance with the plans.
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#### **622.18 Care, Inspection, and Replacement**

##### **(a) Care**

Watering, fertilizing, weeding, cultivating, spraying to control insect infestation and disease, and all other good horticultural practices necessary to maintain the

plants in a living healthy condition shall be performed up to the time for termination of responsibility for care as set out herein. The plants shall be cared for throughout  
 340 the life of the contract. All plants stolen, damaged, or destroyed by fire, automobiles, vandalism, or any other cause, with the exception of plants damaged or destroyed by Department maintenance operations, shall be replaced with no additional payment as soon as practicable. Plants damaged or destroyed by the Department will be replaced by the Department prior to the date of final acceptance.

**(b) Inspection and Replacement**

On or about May 1, a spring inspection of initial plantings will be made during and before the end of the planting season and prior to the beginning of the establishment period. Plants not living, unhealthy, in a poor growing condition, or  
 350 otherwise not meeting the specifications shall be replaced with no additional payment, prior to May 15 for trees and prior to May 25 for other plants. These replacements shall be in accordance with all other requirements of the initial planting. All plants found to be not living or in an unhealthy condition between this replacement and final inspection shall be removed from the project immediately, as directed, and shall be replaced after September 15 as detailed below.

A fall inspection will be made on or about September 15, at which time the condition of the materials planted within the specified planting season will be determined. At the time of this inspection, all plants which are found to be dead,  
 360 unhealthy, in a poor growing condition, or otherwise not meeting the specifications will be rejected. Rejected plants shall be removed and disposed of as soon as practicable and replaced prior to November 15 with no additional payment. Replacement materials and operations shall be in accordance with the requirements of the initial planting.

A final inspection of the contract will be made as soon as possible after replacement. All plants shall be cared for and maintained until final inspection and acceptance.

370 All seedlings for wildlife habitat shall be in accordance with ASNS Seedling Trees and Shrubs and will be inspected by a landscape architect within one week of planting. Spring and fall inspections as described above will not be required. The inspection, planting, and maintenance of seedlings as required will constitute final acceptance.

**622.19 Crown Vetch Plants and Seedlings**

The requirements of 622.09 and 622.18 will not apply to these items. Seedlings shall be fertilized as specified on the plans. Crown vetch plants and seedlings, including replacements, shall be watered as necessary to keep them in a living,  
 380 healthy, and good growing condition.

On or about June 5, these items will be inspected. If it is estimated that 90% or more of the plan quantity of any individual item in a specific area is living, healthy,



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and in a good growing condition, replacements will not be required. If less than 90% are alive, healthy, and in a good growing condition, all items not meeting these requirements shall be replaced. Replacements shall be marked in the same manner as the original planting, except the markers shall be yellow.

Replacement planting shall be accomplished prior to June 15.

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A final inspection will be made on or about the following September 15. If it is estimated that 90% of the contract quantity of any individual item is living, healthy, and in a good growing condition, payment will be made for the contract quantity. If less than 90% meet these requirements, the pay quantity for the item will be established.

**622.20 “Do Not Mow or Spray” Signs and “Do Not Disturb” Signs**

These signs shall be placed at the boundaries of areas where seedlings for wildlife habitat have been placed. The locations and spacing of the signs shall be as shown on the plans or as directed. The sign shall otherwise be in accordance with 621.06(h).

**622.21 Method of Measurement**

Furnishing and planting trees, shrubs, and vines will be measured by the number of units of each type and size specified, installed, and accepted. Seedlings for wildlife habitat, “Do Not Mow or Spray” signs, and “Do Not Disturb” signs will be measured by the number installed and accepted. Retaining wall masonry, either mortared or not mortared as specified, will be measured by the cubic yard. Porous material for root protection will be measured by the ton.

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**622.22 Basis of Payment**

The number of trees, shrubs, and vines of each variety planted, determined as provided above, will be paid for at the contract unit price per each for plant, of the type, form, and size shown in the Schedule of Pay Items. Seedlings for wildlife habitat, “Do Not Mow or Spray” signs, and “Do Not Disturb” signs will be paid for at the contract unit price per each.

Masonry wall and masonry tree well will be paid for at the contract unit price per cubic yard. Porous material for root protection will be paid for at the contract unit price per ton.

Payment will be made under:

Pay Item	Pay Unit Symbol
Masonry Tree Well.....	CYS
Masonry Wall.....	CYS
Plant, Annual.....	EACH
Plant, Aquatic.....	EACH

430	Plant, Biannual .....	EACH
	Plant, Broadleaf Evergreen, Cone, Broad Upright, _____	EACH
	size	
	Plant, Broadleaf Evergreen, Globe, Dwarf, _____	EACH
	size	
	Plant, Broadleaf Evergreen, Spreading, Semispreading, _____	EACH
	size	
	Plant, Coniferous Evergreen, Cone, Broad Upright, _____	EACH
	size	
	Plant, Coniferous Evergreen, Globe, Dwarf, _____	EACH
	size	
440	Plant, Coniferous Evergreen, Prostrate Broad Spreading, Semispreading, _____	EACH
	size	
	Plant, Deciduous Shrub, _____	EACH
	size	
	Plant, Deciduous Tree, Multi-Stem, _____	EACH
	size	
	Plant, Deciduous Tree, Single Stem, _____	EACH
	size	
450	Plant, Ground Cover .....	EACH
	Plant, Perennial.....	EACH
	Plant, Root Tuber, Corm, Bulb.....	EACH
	Plant, Rose Grade .....	EACH
	Porous Material for Root Protection.....	TON
	Seedling.....	EACH
	Sign, "Do Not Disturb" .....	EACH
	Sign, "Do Not Mow or Spray" .....	EACH

460 The cost of furnishing all materials, labor, and necessary incidentals shall be included in the cost of the pay items.

Progress payment for planting trees, shrubs, or vines will be based on the premise that 75% of the work has been completed when such trees, shrubs, or vines have been completely planted. The remaining portion of the payment will be for maintenance and plant replacement.

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